

WATER LINES

NEWS FROM THE WATER RESOURCES DIVISION
MONTANA DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION ♦ FALL 1996



MISSION: TO PROVIDE THE MOST BENEFIT, THROUGH THE BEST USE, OF THE STATE'S WATER RESOURCES FOR THE PEOPLE OF MONTANA

DEPARTMENT NEWS

PLANNING PROCESS INITIATED IN UPPER TENMILE WATERSHED

FOLLOWING A "KNOW YOUR WATERSHED" WORKSHOP IN NOVEMBER OF 1995 AND SEVERAL PRELIMINARY PLANNING MEETINGS IN SUBSEQUENT MONTHS, PERSONS AND ORGANIZATIONS WITH AN INTEREST IN THE UPPER TENMILE CREEK WATERSHED NEAR HELENA RECENTLY FORMED THE UPPER TENMILE WATERSHED STEERING GROUP.

The group consists primarily of interested Rimini citizens and personnel from the City of Helena, Lewis and Clark County, the Department of Environmental Quality, the Department of Fish, Wildlife and Parks, the Environmental Protection Agency, the U.S. Forest Service, the U.S. National Resource Conservation Service, and the U.S. Geological Survey. In addition, Peg-asus Gold Corporation (acting through its subsidiary, Basin Creek Mine) has been an active member of the steering group since its formation and has sponsored several activities, including recent water quality analyses and a group picnic. Ned Pettit of DNRC was chosen by the group as facilitator for the watershed planning process.



Tenmile Creek near Rimini

In recent meetings, the group has identified primary issues of concern in the basin, including stream dewatering, impacts from mining, potable water for Rimini, stream sedimentation, and logging. Further, the steering group has defined an overall mission statement and a final list of planning goals to be addressed in an Upper Tenmile Watershed Management Plan. Planning goals include enhancing or maintaining water quality in

the basin, heightening public awareness and stakeholder involvement in watershed issues and management, guiding future development within the watershed, enhancing the management of water quantity in the basin, and identifying and filling data gaps. Issues specific to each of these goals and management options for their resolution will be the focus of future meetings.

Meetings of the Upper Tenmile Watershed Steering Group are held monthly and are open to the public. The next scheduled meeting will be on Thursday, December 12, at the Tenmile Water Treatment Facility from 6:30 to 8:30 p.m. The meeting agenda includes a presentation by a technical subcommittee dealing with water quality and streamflow issues. ☉

DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION

ARTHUR R. "BUD" CLINCH

Director 406-444-2074
WAYNE WETZEL
Special Projects Coordinator 406-444-6699
GARY FRITZ
Administrator, Water Resources Division 406-444-6605

GLEN McDONALD

Chief, State Water Projects Bureau 406-444-6653
JACK STULTS
Regional Offices Supervisor 406-444-6606
NANCY ANDERSEN
Chief, Water Rights Bureau 406-444-6625

RICH MOY

Chief, Water Management Bureau 406-444-6633
LAURENCE SIROKY
Chief, Water Operations Bureau 406-444-6816
CINDY FORGEY / SHIRLEY MACHONIS
Editors, Water Lines 406-444-6603

GLASGOW REGIONAL OFFICE

ON JUNE 28, 1995, THE GLASGOW REGIONAL OFFICE WAS THE FIRST WATER RESOURCES REGIONAL OFFICE TO CO-LOCATE WITH AN OFFICE FROM THE DEPARTMENT OF STATE LANDS UNDER THE REORGANIZATION GUIDELINES. This move has been very beneficial for both offices in the quality and location of the rental space, cost-effectiveness of the facilities, parking, cleaning services, and shared expenses for telephones and major equipment.

Key issues affecting the Glasgow Water Resources Regional Office include the Milk River basin, its associated controversial and complex water availability problems, the federal Missouri River Management Plan that affects storage in Fort Peck Reservoir and other large reservoirs of the upper Missouri states, the Sheridan County groundwater reservations near Medicine Lake and Dagmar that have affected new water use developments and changes, and the Fort Peck Rural Water Project which will serve 600 water users, 3,000 cattle, and 24,000 acres of land, but hinges on the support and allocation of federal funding.

The Glasgow Water Resources Regional Office serves the public re-

encompass the majority of the irrigated-acres and water shortage problems.

The Glasgow staff is accountable for assisting the public in connection with the following programs.

1. New appropriations and water right changes
2. Adjudication (assistance to the Montana Water Court)
3. Records management
4. Dam safety
5. Water management
6. State water planning
7. Floodplain management
8. State water projects
9. Reserved water rights (assistance to the Compact Commission)
10. Montana Reclamation Development Grant Program
11. Board of Water Well Contractors

The Glasgow staff includes the following people:

BOB LARSON has been the regional manager for the Havre office for 18 years and has also remotely supervised and been the regional manager for the Glasgow office for the past four years. Bob has a B.S. degree in civil engineering from Montana State University and, previous to his employment with DNRC, spent

two years working for the Bureau of Engineers of the City of Los Angeles and five years working for the U.S. Natural Resource Conservation Service in Montana. Along with managing the Havre and Glasgow Regional Offices and the activities of employees, Bob approves water right per-

mit applications and changes, investigates water use complaints, and assists the public and other state and federal agencies with water management issues and concerns. Besides managing the Havre and Glasgow Regional Offices, Bob owns the Sunrise

Angus Ranch where he raises registered black angus cattle.

PAM WIENMEISTER is a program assistant and has been with the Glasgow office for 12 years. Pam processes groundwater certificates, water rights transfers, exempt water rights, stockwater pits and reservoir developments, and water right records corrections for the new appropriations program. She also provides adjudication program technical assistance and water right research, information, and public assistance. Additionally, Pam provides assistance and support for the Board of Water Well Contractors and the water management, state water projects, floodplain management, and dam safety programs.

RON MILLER serves as the new appropriations water resource specialist and has been with the Glasgow office for 11 years. New water use applications are processed by Ron, as well as changes to existing water rights. Ron also provides technical assistance and support for the adjudication, water management, state water projects, floodplain management, and dam safety programs. Ron serves as department liaison and representative throughout the Glasgow region by acting as a technical contact on various water resource management issues, serving on a multi-state task force concerning water supply issues, and, most recently, testifying before U.S. Senate and House committees in support of the Fort Peck Rural Water Project and pending federal funds.

BRENT ESPLIN started work as a water resource planner/hydrologist for the Milk River basin based in the Glasgow office as of May 6, 1996. Brent has a B.S. degree in civil engineering from Utah State University and is finishing his thesis for an M.S. degree, also in civil engineering with emphasis in water management/hydrology. Currently, Brent is actively working with (1) water users on the Milk River, (2) the U.S. Bureau of Reclamation on water delivery and distribution concerning the Milk River Project, and (3) the Saskatchewan, Canada, Interagency Technical Working Committee on a Milk River Basin Management Plan. ☉



*Glasgow Regional Office Staff
Ron Miller, Brent Esplin, Pam Wienmeister and Bob Larson*

garding water resource issues and concerns in a 10-county area in north-eastern Montana covering more than 18 million acres. Phillips and Valley Counties lie in the heart of the U.S. Bureau of Reclamation's 120,000-plus irrigated acre Milk River Project and

TONGUE RIVER PROJECT GROUND BREAKING

A ground-breaking ceremony on August 1, 1996, kicked off the first phase of the Tongue River Basin Project, which is the single largest water project ever undertaken by the State of Montana. This \$63.4 million project is a partnership among three entities: the State of Montana, the Northern Cheyenne Tribe (Tribe), and the U.S. Bureau of Reclamation (USBR).

Phase One of the project includes road work, aggregate mining, and site preparation. Empire Sand and Gravel Co., Inc., of Billings was awarded the \$6.3 million contract for this portion of the project. Engineering design and construction management for the entire project are being handled by ESA Consultants, Inc., headquartered in Bozeman.

DNRC Director Bud Clinch, USBR Regional Director Neil Stessman, and Llevando Fisher, president of the Tribe, spoke at the ceremony, which was held at Tongue River State Park. Others in attendance included individuals from the three participating agencies and the Department of Fish, Wildlife and Parks; Empire Sand and Gravel; ESA Consultants; the Bureau of Indian Affairs; Big Horn County; and the Tongue River Water Users Association. Montana legislators Lila Taylor and Reiny Jabs were present. ☉



Photo by Cindy Forgy

Breaking the ground with golden shovels are (left to right): William Walksalong (Northern Cheyenne vice president), Llevando Fisher (Northern Cheyenne president), Bud Clinch (DNRC director), and Neil Stessman (USBR regional director).

EAST FORK ROCK CREEK DAM ENTERS WINTER SAFER

The rehabilitation of East Fork Rock Creek Dam southwest of Philipsburg is nearing completion. Construction equipment is still operating connecting drain pipes and installing a new berm at the downstream toe of the dam.

This quiet mountain valley was dramatically altered after June 29, 1996, when muddy water was noticed in a beaver pond below East Fork Rock Creek Dam. By July 1, the source of the cloudy water was determined to be silt coming from the dam. Emergency personnel evaluated conditions and decided to (1) evacuate the campground located immediately downstream, and (2) draw down the reservoir to take pressure off the dam.

On July 4, a sinkhole was discovered on the dam's downstream face, above the main drain. Further investigation of the main drain revealed that it was obstructed 38 feet back into the embankment. A clogged drain could cause the embankment to drain improperly and possibly threaten dam failure.

The sheriff then ordered evacuation of the stream area reaching 20 miles below the dam and asked for voluntary evacuation along the rest of Rock Creek to its confluence with the Clark Fork River. DNRC staff maintained a 24-hour watch, taking readings and measurements hourly. Ten monitoring wells were installed downstream, along with two surface water measuring weirs.

By July 18, the reservoir had been lowered to a safe level, and the evacuation order was lifted. The campground remained closed for the summer, but otherwise the drainage was open for recreation.

Exploration holes were drilled in the dam's embankment and foundation, and the main drain was excavated. In addition to the sinkhole, other dam problems included corrosion and siltation of corrugated pipe foundation drains, high water pressure in the bedrock, and degradation of the clay blanket on the east abutment upstream from the dam.

Rehabilitation of East Fork Dam began. The single main drain was replaced with three heavy duty plastic drain pipes. A chimney drain was constructed in the upstream portion of the embankment as some of the excavated materials were replaced. Another sub-



Photo by Jim Bond

Water Resources Division Engineer, Rick Bondy, by equipment excavating the downstream dam face.

surface drain was installed on the east side of the downstream toe of the dam. Finally, an existing culvert in the dam's west embankment was lined and reinforced in place, using a specialty plastic. This will dramatically improve the strength and life of a drain.

The existing clay blanket adjacent to and upstream of the dam's east abutment was exposed, rehabilitated, and thickened with an additional 16 inches of clay. It was then covered with a thicker protective layer of native material.

Monitoring wells have been drilled and will be used to evaluate and observe seepage into and through the dam and its foundation. The wells will enable engineers and dam operators to evaluate the effectiveness of the repairs.

DNRC is committed to an East Fork Rock Creek Dam rehabilitation project that provides for the safety of Rock Creek residents. A series of public meetings have been held and a meeting is scheduled with the Granite County Commissioners for Tuesday, January 7, 1997. The meeting should address the early warning system as well as update construction activities. Questions on the East Fork Dam situation should be directed to: Incident Commander Rick Bondy, (406) 444-6656. ☉

PETROLIA DAM REHABILITATION UPDATE

The final stage of the Petrolia Dam rehabilitation project started June 17 with the demolition of the old concrete principal spillway. Demolition of the old spillway took approximately three days and, shortly thereafter COP Construction began the process of building the new concrete principal spillway. The new design called for construction of a baffled apron drop spillway chute with a roller compacted concrete (RCC) approach chute, side walls, and crest.

Throughout the structural concrete portion of the construction, the DNRC's project engineer, Kurt Hafferman, with the assistance of the Lewistown Regional Office engineering specialist Sterling Sundheim, supervised most of the construction administration duties. Kurt and Sterling's main accomplishment was to ensure that none of the concrete in the project was less than the 4,000 pounds per square inch (psi) specification. Kurt stated that, in fact, the average concrete strength was above 5,500 psi and most of the concrete reached nearly 6,000 psi.

The final phase of the project, placement of the RCC, began with the excavation of the approach chute on October 1. The Petrolia project is one of only a few projects in the nation that use RCC for a component of the main spillway, and it is the first to use RCC as an approach to a structural concrete baffled apron drop spillway. The actual placement of the RCC began October 21. The department's consulting engineer, MSE-HKM, was responsible for the

construction administration duties during the RCC placement and provided the Department with quality assurance testing.

The substantial completion inspection was conducted on November 20 and, other than a few minor items that will be completed in the spring of 1997, the project is finished. Many accolades are due COP Construction for the superior workmanship on this project.

DNRC will complete all required warranty inspections within the next year and feels very confident that the Petrolia Water Users will soon become the owners of a project that has a new spillway that will meet their needs for many years to come. ☺

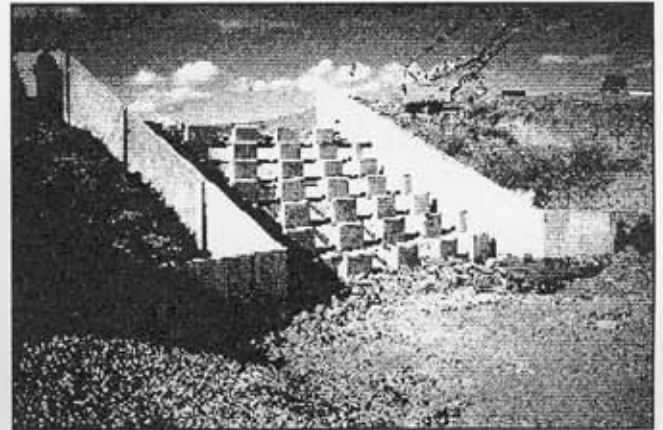


Photo by Bob Clark

Petrolia Dam rehabilitation. View of Baffled Block Spillway.



- ☺ Planning Process, Upper Tenmile Watershed Page 1
- ☺ People In Water -- Glasgow Office Page 2
- ☺ Tongue River Project Breaking Ground Page 3
- ☺ East Fork Rock Creek Dam Update Page 3
- ☺ Petrolia Dam Update Page 4

MONTANA DEPARTMENT OF NATURAL
RESOURCES AND CONSERVATION
WATER RESOURCES DIVISION - WL
48 North Last Chance Gulch
P O Box 201601
Helena MT, 59620-1601

BULK RATE
PERMIT NO.89
HELENA, MT